Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

National Academy of Sciences.—This body met at the Johns Hopkins University, Baltimore, Nov. 1, 2, and 3. The following papers were read: *The Evolution of the Moon, G. K. Gilbert; *On the Observations for Latitude at Rockville, Md., T. C. Mendenhall; *On the Latitude Observations at Honolulu, T. C. Mendenhall; *Crystallized Vegetable Proteids, Thomas B. Osborne, introduced by S. W. Johnson; *A Spectroscopic Analysis of the Rare Earths, H. A. Rowland; †A Table of Standard Wave-lengths, H. A. Rowland; On the Motion of a Sphere in a Viscous Fluid, H. A. Rowland; † Volcanic Rocks of South Mountain in Pennsylvania and Maryland, G. H. Williams, introduced by Ira Remsen; On Some Curious Double Halides, Ira Remsen; †Study of the Action of Light on Acids in Solutions Containing a Salt of Uranium, Ira Remsen; *On Isothermals and Isometrics of Viscosity, C. Barus; Significance of the Follicle of Salpa, W. K. Brooks; †Biological Relations of the Oldest Fossils, W. K. Brooks; On the Vertebrate Fauna of the Blanco Epoch, E. D. Cope; On the Motion of the Earth's Pole, S. C. Chandler; The Use of Planes and Knife-edges in Pendulums, T. C. Mendenhall; Recent Improvements in Astronomical Telescopes, C. S. Hastings; Exhibition of Photographs Illustrating New Methods and Results in Solar Physics, George E. Hale, introduced by C. S. Hastings; Some Effects of Magnetism on Chemical Action, George A. Squier and Frank A. Woff, Jr., introduced by H. A. Rowland.‡

The President announced the deaths of members of the Academy since the last meeting as follows; Lewis A. Rutherford, of New York, died May 30, 1892, and Prof. W. P. Trowbridge died August 12, 1892. Prof. B. A. Gould, of Cambridge, was appointed to write a biographical memoir of Mr. Rutherford, and Gen. C. B. Comstock, U. S. A., to prepare the memoir of Prof. Trowbridge. The deaths of two foreign associates, C. H. C. Burmeister and A. W. Hofmann, were also announced.

The following are abstracts of three of the papers read:

In Mr. G. K. Gilbert's paper on The Evolution of the Moon, he said in part: "The surface of the moon, like that of the earth, is diversified by plains, uplands and mountains, and these various features have special characters in which they differ from those of the earth. The plains lie lower than other portions of the surface, and are distinguished by their darker color. By those who have mapped the surface of the moon they are called seas, but the word is used in a figurative sense, for it is well understood that there is no water on the moon. The mountains are usually in the form of rings, each ring inclosing a hollow, and to this form the name crater is given. They are scattered over the surface of the plains, and on the uplands they are thickly set, overlapping one another in every variety of relation. They are of all sizes, from the smallest that the telescope can discern to a diameter of several hundred miles. Those of medium and larger size are usually characterized by a smooth circular plain in the interior and a hill or group of hills rising in the center of the plain. They differ from the craters of the earth in various ways, especially in the fact that their bottoms are below the level of the surrounding country, and in the fact that the central hill bears no crater on its summit.

---

* Read on November 1.

† Read on November 2.

‡ The remaining papers were read on November 3.

"The origin of these craters has been the subject of many theories. Despite their marked peculiarities of form, they have more commonly been ascribed to volcanic action; but they have also been referred to the bursting of gigantic bubbles, to the evaporation of water and its accumulation about the point of evaporation as ice, and to the impact of bodies from without. Personally, I favor the last mentioned explanation, but I differ from other writers in respect to the origin of the colliding bodies. It has been previously surmised that these might be rocks hurled from terrestrial volcanoes; that they might be meteors from the recesses of space, such as are continually burned in the upper layers of our atmosphere, giving rise to shooting stars, and that they might be aggregates of such meteors constituting balls of cosmic dust. Now my idea of their origin is based upon the phenomena of the planet Saturn and its ring. About that planet is a disc-like ring which astronomers believe to be constituted of an indefinitely large number of very small bodies revolving about the planet in parallel orbits—a symmetrically shaped form of small satellites. Assume that a similar ring of minute satellites once encircled the earth, and that these gradually became aggregated into a smaller number of larger satellites, and eventually into a single satellite—the moon. The craters mark the spots where the last of the small bodies collided with the surface when they finally lost their independence and joined the larger body.

In Prof. G. H. Williams' paper on The Volcanic Rocks of South Mountain in Pennsylvania and Maryland, he announced that during the past summer he had been able to clearly identify over 175 square miles of rocks exposed along the eastern side of South Mountain as ancient lavas. "These rocks," he continued, "have been heretofore often described by geologists, but have been considered to be of sedimentary origin. To any one, however, familiar with the products of recent volcanic regions the proofs of their lava character are convincing. In spite of their great age and complete recrystallization they still retain the minutest details of their original structures. Even under the microscope they are hardly to be distinguished from recent glassy or half-glassy rocks from the Yellowstone Park or from southern Italy. In chemical composition also they show surprisingly little change.

These old volcanic rocks present two sharply contrasted types. One is basic in composition and agrees in all respects with our recent basalts, the other is acid in composition and belongs to the group of lavas called porphyry, or rhyolite. In South Mountain the rocks of the latter class, which occupy about twice as much space as the basic ones, have been called slates, while their green, basic contemporaries have been known as chlorite schists. The discovery of such extensive lava fields in such wonderful preservation and so near at hand was unexpected, and deserves attention on account of its local interest.

The age of the lavas and their relations to the sandstone of the mountain, which Mr. Walcott has recently shown to be of the oldest known fossil-bearing horizon, was then explained. Attention was called to the fact that, as in most volcanic regions, large deposits of fragmental material occur (breccias, ashes, etc.), which have heretofore been considered as sedimentary beds. A large map of South Mountain, on a scale of three miles to the inch, was exhibited to show the distribution of all these rocks. Numerous specimens of the rocks themselves were also shown. Many of the porphyries are of great beauty, and are capable of extensive application in the arts, especially when polished for purposes of interior decoration."

Prof. E. D. Cope's paper was on The Fauna of the Blanco Epoch. Prof. Cope said in part: "The formation known as the Blanco has been discovered by Texan geologists and forms a part of the Great Staked Plain. I visited this region," he said, "the geology of which has been so much misunderstood, last spring, and obtained numerous fossil remains, from which I have determined fifteen species of vertebrata, all new to science and constituting a fauna intermediate between two previously known faunæ, and filling an important gap in the history of life on this continent. The species found included two tortoises, one bird, one sloth, three mastodons, one peccary, three horses, one camel, and three carnivora. The most interesting discovery is that of a hyena, a form which has not hitherto been found in America. Its size is about that of the living spotted hyena. The other carnivora are a weasel the size of a fisher, and a cat about the size of a cheetah, both new to science. Two of the mastodons are very large, and the first (*Dibelodon humboldtii*) has hitherto been found only in South America, and the second (*D. tropicus*) in Mexico, while the third is new to science (*D. præcursor*). The horses are true species of the genus Equus—having but one toe—but one of them is remarkable for its small size, as its teeth do not exceed in size those of a sheep. The peccary is entirely a new form, while the camel ranks somewhere between the ordinary camel and the Procamelus, somewhat exceeding the ordinary camel in size."

The Biological Society of Washington.—Nov. 5, 1892—The following communications were read: The Fauna and Flora of Roan Mountain, N. C., Dr. C. Hart Merriam; Pea and Bean Weavils, Prof. C. V. Riley; The Influence of the Cross Timbers on the Fauna of Texas, Mr. Vernon Bailey. FREDERICK A. LUCAS, Secretary.

Boston Society of Natural History.—Nov. 2.—The following paper was read: Certain Aspects of the Vegetation of New Zealand, Prof. George L. Goodale.—SAMUEL HENSHAW, Secretary.

The New York Academy of Sciences has recently organized a Biological Section, which will hold monthly meetings. At the opening meeting, Oct. 17, Prof. Henry F. Osborn acted as chairman. The following papers were presented: Bashford Dean on Dionæa Under Its Native Conditions Near Wilmington, N. C.; the results of experiments emphasizing the plant's erratic sensibility and its special adaptation for capturing ground insects. N. L. Britton on a species of Hieracium; E. B. Wilson on The Artificial Production of Twins and Multiple Embryos in Amphioxus. The paper dealt mainly with the peculiarities of double monsters produced (as in Driesch's experiments on Echinus) by shaking apart the blastomeres of two- and four-celled stages, (vide Anatomischer Anzeiger, 1892.) Every gradation exists between the two perfect and separate bodies, each half the normal size, and four in which the only indication of duality consists of a bilobed condition of the archenteron. In the double gastrulas the long axes of the two halves may form any angle with each other, and the two blastopores when separate may be turned in any direction. In cases where the two blastopores face each other the two bodies are united by a bridge of tissue at one side essentially as in the double gastrulas of certain earthworms.

SCIENTIFIC NEWS.

The Indiana Academy of Science is engaged in the publication of its proceedings since its establishment several years ago. The publication is in the hands of a committee consisting of Prof. O. P. Hay, of Butler University; Prof. C. A. Waldo, of Depauw University, and Pres. John M. Coulter, of the Indiana University. No State organization holding its meetings but once a year has better meetings with a greater variety of interesting papers than this association.

The American Microscopical Society has issued a special circular which may be obtained by all interested, of Dr. William H. Seaman, Secretary, Washington, D. C. The circular gives an outline of the proceedings of the last meeting of the Society, held at Rochester Aug. 9–12, 1892, from which we gather the following items: Twenty-nine new members were elected and twenty-seven papers were presented. The following officers were elected for the ensuing year: President, Prof. J. D. Cox, of Cincinnati; Vice-Presidents, Dr. Geo. M. Sternberg, of Brooklyn; Dr. A. C. Mercer, of Syracuse; Secretary, Dr. Wm. H. Seaman, of Washington; Treasurer, Mr. Charles C. Mellor, of Pittsburg. The circular also gives the following announcement regarding prizes offered by the Society:

The following sums of money have been placed at the disposal of the society, to be given as prizes for the encouragement of microscopical research, and Profs. Gage, Kellicott, and Seaman were appointed a committee to prepare the conditions on which they should be granted. The competition will be open to members of the society and to those who make application for membership before submitting their papers to the committee:

Two prizes of $50, two prizes of $30, two prizes of $25, two prizes of $15. The committee have prescribed the following conditions:

One prize of $50 for the best paper which shall give the results of an original investigation relating to *animal* life, made with the microscope, and not less than 3000 words in length. The methods by which the results are obtained to be given in full.